

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
5 October 2000 (05.10.2000)

PCT

(10) International Publication Number  
**WO 00/58307 A3**

(51) International Patent Classification<sup>7</sup>: C07D 471/04,  
A61K 31/4375, C07D 495/04, A61P 25/00, G01N 33/566  
// (C07D 471/04, 221:00, 221:00) (C07D 495/04, 333:00,  
221:00)

(21) International Application Number: PCT/US00/06371

(22) International Filing Date: 10 March 2000 (10.03.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/123,802 11 March 1999 (11.03.1999) US

(71) Applicant (for all designated States except US): **NEURO-  
GEN CORPORATION** [US/US]; 35 Northeast Industrial  
Road, Branford, CT 06405 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **YUAN, Jun**  
[US/US]; 40 Spruce Hill Drive, Guilford, CT 06437  
(US). **MAYNARD, George, D.** [US/US]; 27 Glenwood  
Road, Clinton, CT 06413 (US). **HUTCHISON, Alan, J.**  
[US/US]; 29 Kimberly Lane, Madison, CT 06443 (US).

(74) Agent: **SARUSSI, Steven, J.**; McDonnell Boehnen Hul-  
bert & Berghoff, Suite 3200, 300 South Wacker Drive,  
Chicago, IL 60606 (US).

(81) Designated States (*national*): AE, AL, AM, AT, AU, AZ,  
BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK,  
DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID,  
IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,  
LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL,  
PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ,  
UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM,  
KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent  
(AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent  
(AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU,  
MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM,  
GA, GN, GW, ML, MR, NE, SN, TD, TG).

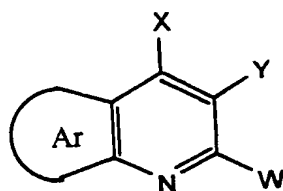
**Published:**

— With international search report.

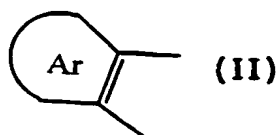
(88) Date of publication of the international search report:  
8 February 2001

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

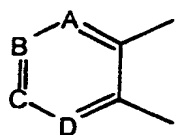
(54) Title: **ARYL FUSED 2,4-DISUBSTITUTED PYRIDINES: NK3 RECEPTOR LIGANDS**



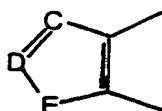
(I)



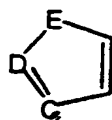
(II)



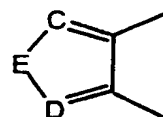
(a)



(b)



(c)



(d)

(57) Abstract: Disclosed are compounds of formula (I) or pharmaceutically acceptable non-toxic salts or pharmaceutically acceptable solvates thereof wherein: (II) represents (a), (b), (c) or (d) and W, X, Y, A, B, C, D, E are variables as described herein. These compounds are highly selective agonists or antagonists at NK3 receptors or prodrugs thereof. The novel tachykinin NK-3 receptor antagonists contained in this invention have potential utility in the treatment of a broad array of disorders and diseases of the central nervous system (CNS) and periphery in mammals in which activation of NK-3 receptors is of importance.